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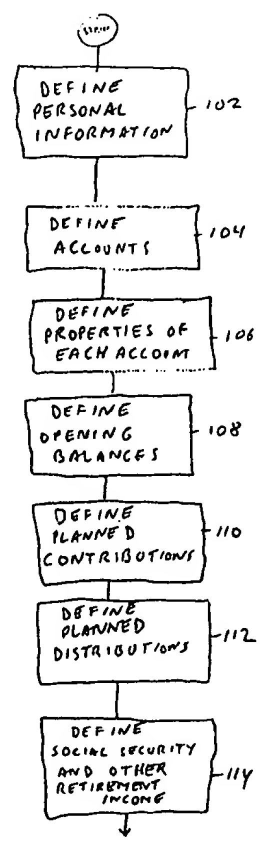
(54) Title: METHOD, SYSTEM AND COMPUTER PROGRAM FOR AUDITING FINANCIAL PLANS

(57) Abstract

A method for evaluating financial plans includes the steps of defining personal information (102) and account properties (104) and opening balances of each account (108). The opening balances represent the actual present values of the accounts. A planned contribution of each account (110) and planned retirement distributions (112) and withdrawal information (116) are then defined by the user. Allocations of assets by categories (120) and tax information (122) are provided by the user. The performance in a predetermined initial value of investment over a selected time period is then calculated based on changes in value over a first historical data, separately for each asset allocation and tax status (126) to obtain a changed investment value. The changed investment value is updated based on a second time interval to obtain a further changed investment value. The investment value is then adjusted based on at least one of a contribution amount and a withdrawal amount.



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METHOD, SYSTEM AND COMPUTER PROGRAM FOR AUDITING FINANCIAL PLANS

Field of the Invention.

This invention relates to computer programs and related methods and systems for financial planning for individuals.

Background of the Invention.

Financial plans are essential to the plans for retirement, saving for major expenses, such as children's education, for most individuals. If too little is saved, or the wrong investments are made, individuals will not be able to maintain their lifestyles in retirement, may not be able to send their children to desired schools, or may find themselves outliving their savings. On the other hand, if more sums than are needed are set aside for future needs, individuals may find themselves unnecessarily denying themselves and their families even minor luxuries, such as vacations and larger homes. Professional financial planners and individuals have a variety of ways of creating financial plans. The financial services industry has adopted standardized means of projecting out individual financial plans. There currently exists today no program or mechanism that allows an individual to have an accurate perception of what would have happened to their financial plan historically. In lieu of actually doing that, which is also a little bit insufficient, the financial services industry has adopted The fundamental flaw with those standard means is: 1) they use either an assumed rate of investment return over the whole period of time, and as can be proven mathematically, lacks any relation to what the values will be in the future even if those annualized returns are received, or 2) they try to statistically calculate to come out with a forecast of statistical probability of the distribution of outcomes; by the very nature of the statistical estimation, those do not really relate to actual historical experience. In either case, the fundamental problem in any financial plan done with any of these standardized

tools, either using simple annualized return as a means of estimating future values or a statistical estimation of future values, that the plans do not accurately predict the future wealth of the individual using the financial plan. For example, existing prior art tools help the individual figure out a risk tolerance, and then request the user to furnish a return expectation is or determine what the return expectations should be for the risk tolerance. These prior art tools then advise the user to expect a certain return, or a certain outcome based on a certain return, allowing for projected cash flows.

The lack of accuracy in prediction, as noted above, causes great problems for the individual. The individual may fail to meet his financial goals or forego opportunities in trying to meet those goals. A financial plan may direct an individual to save more money then she needs to, or retire later than he or she needs to. A financial plan may advise an individual that he may retire earlier than he should, or withdraw more money than he should from investments. All of this advice results from the estimation errors made through either of the current industry norms.

Financial plans are generally reviewed and revisited once every few years. The financial plan and forecasting tools are not meant to help the individual client make decisions on a daily basis about the implications of making an asset allocation decision or making purchasing decisions or retirement decisions. These decisions tend to be very long term in nature and updated fairly infrequently. Even if the tools were accurate, predictions may be made after investment, spending or retirement decisions have already been made. Their inherent nature is such that they are not updated on a regular basis. Such plans provide little support for investors to make investment decisions.

For example, an investor feels wealthy because he has received some great market returns. His plan called for saving $20,000 a year, and he intends to continue to do so. His current plan said he was supposed to have $2 million at a given time, and because of great market return, he now has $2.5 million. He then decides to make a major purchase using a portion of the additional $500,000. He fails to rerun his financial plan. He does not know how making that purchase decision will affect his likelihood of achieving his long-term goals.

An object of the invention is to provide a method for evaluating financial plans to determine the likelihood that an investor will meet the investor's financial goals.

An advantage of the present invention is that such a method is provided. Additional objects and advantages will become evident from the detailed description of a preferred embodiment which follows.

Summary of the Invention.

A method for evaluating financial plans includes the steps of calculating the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value, updating the changed investment value based on the selected amount and time to obtain a further changed investment value, calculating the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, repeating the steps of calculating, updating and again calculating with respect to a third historical time interval and a fourth historical time interval, respectively, and after at least one of the calculations, adjusting the investment value based on at least one of a contribution amount and a withdrawal amount. The method may include presenting the result of the calculations as a report

to an individual. The method is preferably implemented by suitable computer software. Investments may be categorized in more than one asset category, and distinct historical data employed in calculations for each asset category. The results of the calculation may be compared to a selected wealth goal. After each calculation relative to historical data, an adjustment of the investment value to simulate tax effects may be made.

A system for evaluating financial plans includes a computer programmed to calculate the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value; to update the changed investment value based on the selected amount and time to obtain a further changed investment value; to calculate the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, to further calculate, update and again calculate with respect to a third historical time interval and a fourth historical time interval, respectively; and, after at least one of the calculations, to adjust the investment value based on at least one of a contribution amount and a withdrawal amount.

A storage medium has stored therein instructions, wherein the instructions, when executed by a processor, cause the processor to perform the steps of:

calculating the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value;

updating the changed investment value based on said selected amount and time to obtain a further changed investment value; and

calculating the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, and

repeating said steps of calculating, updating and again calculating with respect to a third historical time interval and a fourth historical time interval, respectively; and

after at least one of the calculations, adjusting the investment value based on at least one of a contribution amount and a withdrawal amount.

Brief Description of the Figures.

Figures 1A, 1B and 1C are a flow chart illustrating the steps in a method according to the invention.

Figure 2 is a sample graphic representation of the result of a method of the invention.

Figure 3A and 3B is a sample chart of a result of a method of the invention.

Figure 4 is a sample chart showing another result of a method of the invention.

Figure 5 is a block diagram showing features of a system according to the invention.

Description of the Invention.

Referring to Figures 1A - 1C, the method of the invention is illustrated in block diagram format. Generally, the initial step is to provide to a program sufficient information about the individual, the individual's current investments, planned future contributions, and planned withdrawals, to permit the method to run. At step 102, the user is prompted to define personal information. The personal information preferably includes information important to financial planning. The basic information includes the individual's birth date, the individual's intended retirement age, and the end age for the plan. The information may also include, if the individual

has a spouse, the spouse's birth date, the spouse's intended retirement age, and the end age of the spouse for the plan.

The user may then be prompted to define one or more accounts, as shown at block 104. Preferably, these accounts are named by the user. The user is prompted to define the properties of each account as shown at block 102. The most important property of the account is the tax treatment of the account. For example, the gains on the account may be subject to current taxation. Alternatively, the gains on the account may be deferred until withdrawal. Pull-down menus may be provided to provide a selection from a variety of different types of investments, such as 401(k), 403(b), Individual Retirement Account, savings account, Education IRA, Roth IRA, investment real estate, and other investment types.

The user is prompted to provide opening balances of each account at block 108. For an effective financial plan, the opening balances preferably represent the actual present values of the accounts.

The user is prompted to furnish the planned annual contribution to each account, as shown at block 110. The program may provide for changes in planned annual contributions to accounts at different time periods in the future, or selection of the start and end age of contributions for various accounts. A default may be a level contribution starting immediately and continuing until retirement.

The user is prompted to provide planned retirement distributions, as shown at block 112. This may be a desired retirement income level. The user may further refine by providing specific distributions from specific sources. For example, such sources might include a defined benefit retirement plan.

In a preferred embodiment, the user is then prompted to provide information on Social Security and other sources of retirement income, as shown in step 114. The user may select a desired retirement age. The program may then display annual social security benefits based on formulas or tables accessed by the program. Such formulas or tables have been constructed from publicly-available Social Security benefit information.

The user is prompted to enter additional withdrawal information at block 116. For example, a form may be provided to input the age of each child what levels of education will be paid by the individual, and the expected cost per year. The amount and time of the expected withdrawals from investments may then readily be calculated. Other anticipated large expenses may optionally be included.

The user is then prompted to enter allocations of assets by asset categories, as shown at block 120. The asset categories are preferably large categories, such as large capitalization stocks, small capitalization stocks and foreign investments, bonds, and Treasury bills and cash. The selection of particular categories may be altered. The desired categories should be those as to which considerable historical data is available. It is preferred to assume essentially a passive investment, rather than looking at historical returns of particular managed investments. Depending on the features desired, asset allocations may be selected separately for both currently taxable and tax deferred investments. A further feature that could be added would be changes in asset allocations at different times in the future. The user may also be prompted to input expected, optimistic, and pessimistic returns on investments.

The user may also be prompted to enter a number for investment expenses. If investment expenses are given a positive percentage, this would indicate investments that underperform the

market historically. If investment expenses are given a positive percentage, this would indicate investments that outperform the market historically.

The user is then prompted to enter tax information, as shown at block 122. This information preferably includes Federal income tax filing status, State of residence, and any local tax rates. The program may access tables to look up applicable Federal ordinary and capital gains income tax rates and state tax rates. Local tax rates may also optionally be entered. Tax rates may be entered from a look-up table separately for pre-retirement and retirement rates.

It will be understood that the order that the foregoing information is furnished may be changed without affecting the method. The information preferably includes as much information as possible relevant to the individual's projected cash flow into and out of investments and other retirement income.

The option of selecting an assumed inflation rate may be provided. Different inflation rates may be used with respect to different investment categories. The option may be provided of furnishing results in inflation-adjusted dollars or actual dollars.

When all the desired information has been entered, the user is prompted to run the calculation. The program has stored a series of changes in values for each separate category of assets for a selected number of time periods. The time periods may be, for example, years, months, or shorter or longer periods as desired. The performance of the plan, will then be determined assuming a large number of different starting points. Based on the input asset allocations and the current holdings values, starting values for each asset allocation and each tax status are calculated, as shown by block 124. The program selects a time period, as shown by block 125. The performance for the first selected time period is then calculated based on the

historical data, separately for each asset allocation and tax status, as shown by block 126. The performance may be adjusted either before the calculation or after the calculation by the investment assumptions. For currently-taxable investments, any gain is adjusted by deducting appropriate amounts based on assumed tax rates, as shown by block 128. The gain is added to the value in each category, as shown by block 130. The contribution at the end of the time period is then added to each category, based on asset allocations and previously defined contribution amounts. Alternatively, if the year of the plan calls for a withdrawal, for retirement needs, education or otherwise, the appropriate adjustment is made to the values. This is shown by block 132. This value is stored as an ending value. The method then checks to see if the final year for the plan has been reached, as shown by decision block 136. If not, the method returns to block 125, a new time period is selected, and the calculations are repeated, using historical data from the next year in the applicable table, and the contribution, withdrawal, distribution and tax information from the next year in the plan. The method repeats until the last year of the plan is reached. When the final year of the plan is reached, the method checks to see if the total number of starting points is the final number of starting points, as shown by decision block 138. If not, then the entire method repeats, using the same opening balances as allocated, commencing from a different starting point. This is repeated until the desired number has been completed. A possible minimum number is 32 different starting points. The calculation need not be performed for consecutive years. For example, the number of years of the plan may exceed the number of years of historical data. In one embodiment, each test is run from the start point consecutively until one-half of the time period of the plan is reached, and then the calculation returns to the start point. Other methods may be used if the number of plan years exceeds the historical data.

To determine the appropriate amount to be withdrawn, Social Security and other sources may be deducted from the desired annual retirement income amount.

For purposes of comparison to a standard calculation, the program that implements the method can also calculate the returns based on a flat annual rate of return, without reference to historical data.

The method then provides the results in a display for the user. Preferably, only certain results are selected for display. For example, the tests may be ranked by ending value. A middle ending value, ranked at 50% probability, may be selected. An ending value representing a result better than all but one percent of the results may be selected and labeled as having a 99% probability of success. The results may be displayed in tables or graphically in a variety of formats. For example, the results may be displayed in a graph showing age against value of investments. Sample results for fictional assumptions are shown graphically at Figure 2. Line 202 represents a standard result based on a steady annual increase in value. Line 204 represents values based on a result worse than 99% of the starting points. Line 206 represents a result that is at the midpoint of the analyses that were run.

As shown in Figure 3A and 3B, the results may also be displayed as a table. The table may show the plan year, from the date the plan is run, as shown at 302, the age of the individual at the time of the plan, as shown at 304, and the ending value, as shown at 306. Additional information, such as the cash flow into or out of investments, the yield on investments in the year, the appreciation or depreciation in value of investments, and the taxes, may also be shown for each plan year.

The report may also include a detailed analysis listing the ending value and market periods for each test that was run. A sample is shown as Figure 4. The tests are ranked in order from highest ending value to lowest. Column 402 displays probability of obtaining at least the ending value listed. Column 404 displays the ending value of each test. Column 406 displays ranking each test from most assets to least assets.

Other displays may include a display of cash flows into and out of investments, showing contributions to investments, withdrawals, and retirement distributions, on a year-by-year basis.

The program and system may also provide the user, together with the results of the plan, the opportunity to adjust various variables to ascertain the change in historical results. For example, an input may be provided to permit the user to change asset allocations, retirement age, contribution amounts, distribution amounts, and amounts of other withdrawals.

The program may be made accessible to users at client computers connected on the World Wide Web to a server running the program. Web-based forms may prompt the user to provide required and optional information. The results of the analysis may be displayed on the page. The results may also be presented as a report in a convenient format, such as portable document format (pdf) for downloading to the client computer, or may be e-mailed from the server to an address identified by the user at the client computer. This format is advantageous in that the tables containing historical data can readily be supplemented, and tables containing tax rate information can readily be updated. Also, a financial planner and a client can share a report on a web server with suitable security.

Figure 5 illustrates a system according to the invention. Processor 505 is running in a server computer. Processor 505 is connected to client computer system 510 via Internet 515. As

noted, the world wide web may be used for interchange of data. Processor 505 accesses program files 520 for instructions. Program files 520 are stored on a suitable storage medium, such as a hard drive, CD-ROM or other storage medium. Processor 505 accesses general files 525, which contain, non-exclusively, as shown by block 530, historical performance data, by time period, for different categories of investments, tax data, and Social Security data. Processor 505 may also access client files 535, which contain, as shown by block 540, non-exclusively, investment values, asset allocations, contributions, age and retirement age. Processor 505 causes the data in block 540 to be updated and changed based on data received from client system 510 in accordance with instructions contained in program files 520.

The use of the method, system and program of the invention is not limited to running on a web server. Copies of the program may be distributed on physical media or by electronic transmission.

In testing this method, the inventor has observed tremendous differences between the present invention and prior art tools, depending on the individual's pattern of contributions and withdrawals and the resulting periodic balances of their investments.

The result may be expressed as the percentage of outcomes for which the desired financial goal is actually achieved. That financial goal can be, for example, a certain amount of wealth by a certain date, or a desired stream of withdrawals. The probability of success may be expressed a percentage. The inventor believes that the analysis of a financial plan using the method of the invention will, notwithstanding the annualized rate of return, advise the individual investor as to the likelihood of achieving his objectives.

The method of the invention gives the investor the distribution the results of any financial plan based on historical market outcomes. Probabilities of obtaining certain outcomes can be derived from the distribution. Some financial plans, subjected to this analysis, will show that the investor would have run out of money before the plan indicated that. This permits the investor to know, for example, that the investor has a one-in-ten chance of failing to meet his objective. Based on this information, an investor may choose to adjust the financial plan to provide for less risk.

Unlike prior art analyses, the results of the method of the invention are is unique to the asset allocation, planned contributions and withdrawals, beginning wealth, and risk tolerances of each user. For example, for one investor, lowering the small capital stock/foreign allocation may increase the likelihood of running out of money. For another investor, increasing the small capital stock/foreign allocation may increase the likelihood of running out of money.

The software may be enhanced to include a mechanism for the investor to prioritize their financial outcomes. For example, an investor may have a goal of having a certain probability of having $10 million at age 85. The investor may prefer to retire at 65, but would be willing to retire as late as 70. The same investor may be able to save up to $40,000 per year, but may strongly prefer not to save more than $20,000 per year. By weighting the variables, the investor can then have the program run a series of scenarios. This will then provide the investor with a number of different options that meet the criteria.

The method of the invention may be used dynamically by investors for guidance in making investment and purchase decisions. For example, an investor may find that, by foregoing a purchase, he may retire earlier, or increase his likelihood of achieving his savings

goal at retirement, by not making the contemplated purchase. An investor contemplating an investment may find that, depending on the category of investment, she may either increase or decrease her likelihood of achieving her financial goals.

The planning software of the invention, including the historical data on which the calculations are based, can be made available to the investor to update based on the actual current data on the value of investments. Data could be transferred automatically from financial services providers to client files on a server so that the updates could be accomplished without requiring the data to be input by the investor.

The processor may be an Intel Pentium or similar microprocessor. The method can be implemented in custom software, or in spreadsheet software such as Excel. The computer program with commands that cause a computer to execute the method can be stored on any storage medium that now exists or may be developed in the future, including fixed disk drive, floppy discs, and CD-ROM. The computer program may also be transmitted as a digital signal over telephone lines, other transmission lines, or via radio waves. The signal may be transmitted in packets over a packet-switched network, such as the Internet.

The computer program in accordance with the invention may be stored and distributed in any suitable storage medium, such as fixed disk, portable diskettes, and CD-ROM or other read-only memories. Also, methods described as being carried out in software running on general-purpose computer hardware may be implemented in hardware.

It will be understood that various changes in the details, materials and arrangements of the methods and systems which have been described and illustrated above in order to explain the

nature of this invention may be made by those skilled in the art without departing from the principle and spirit of the invention.

What is claimed is:

1. A method for evaluating financial plans, comprising the steps of:

calculating the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value;

updating the changed investment value based on said selected amount and time to obtain a further changed investment value; and

calculating the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, and

repeating said steps of calculating, updating and again calculating with respect to a third historical time interval and a fourth historical time interval, respectively; and

after at least one of the calculations, adjusting the investment value based on at least one of a contribution amount and a withdrawal amount.

2. The method of claim 1, further comprising the step of presenting the result of said steps to an individual.

3. The method of claim 1, wherein said investments are categorized in more than one asset category, and distinct historical data is employed in calculations for each of said asset categories.

4. The method of claim 1, wherein the results of said calculation are compared to a selected financial goal.

5. The method of claim 1, wherein, after each calculation relative to historical data, an adjustment of the investment value to simulate tax effects is made.

6. The method of claim 1, further comprising the step of prompting a user to enter the intial investment value, and allocations to asset categories.

7. A system for evaluating financial plans, comprising:

means for calculating the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value;

means for updating the changed investment value based on said selected amount and time to obtain a further changed investment value;

means for calculating the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, and

means for further calculating, updating and again calculating with respect to a third historical time interval and a fourth historical time interval, respectively; and

means for after at least one of the calculations, adjusting the investment value based on at least one of a contribution amount and a withdrawal amount.

8. The system of claim 7, further comprising means for presenting the result of said steps to an individual.

9. The system of claim 7, further comprising means for categorizing said investments in more than one asset category, and for employing distinct historical data in calculations for each of said asset categories.

10. The system of claim 7, further comprising means for comparing the results of said calculation to a selected financial goal.

11. The system of claim 7, further comprising means for,, after each calculation relative to historical data, adjusting the investment value to simulate tax effects.

12. The system of claim 7, further comprising means for prompting a user to enter the intial investment value, and allocations to asset categories.

13. A storage medium having stored therein a plurality of instructions, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the steps of:

calculating the change in a predetermined initial value of an investment over a time interval based on changes in value over a first historical time interval to obtain a changed investment value;

updating the changed investment value based on said selected amount and time to obtain a further changed investment value; and

calculating the change in the further changed investment value over a second time interval based on changes over a second historical time interval to obtain a further investment value, and

repeating said steps of calculating, updating and again calculating with respect to a third historical time interval and a fourth historical time interval, respectively; and

after at least one of the calculations, adjusting the investment value based on at least one of a contribution amount and a withdrawal amount.

14. The storage medium of claim 13, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the further step of presenting the result of said steps to an individual.

15. The storage medium of claim 13, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the further step of, for investments categorized in more than one asset category, employing distinct historical data is employed in calculations for each of said asset categories.

16. The storage medium of claim 13, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the further step of comparing the results of said calculation to a selected financial goal.

17. The storage medium of claim 13, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the further step of, after each calculation relative to historical data, adjusting the investment value to simulate tax effects.

18. The storage medium of claim 13, wherein the plurality of instructions, when executed by a processor, cause the processor to perform the further step of prompting a user to enter the intial investment value, and allocations to asset categories.

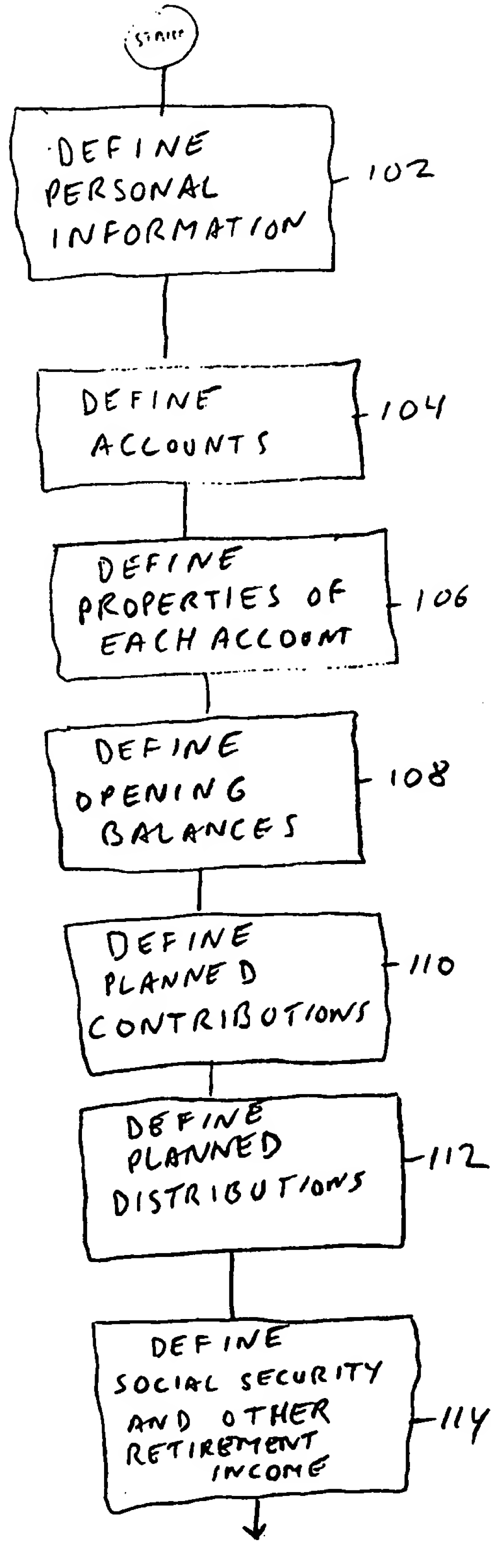

START
DEFINE PERSONAL INFORMATION
102
DEFINE ACCOUNTS
104
DEFINE PROPERTIES OF EACH ACCOUNT
106
DEFINE OPENING BALANCES
108
DEFINE PLANNED CONTRIBUTIONS
110
DEFINE PLANNED DISTRIBUTIONS
112
DEFINE SOCIAL SECURITY AND OTHER RETIREMENT INCOME
114

FIG. 1A

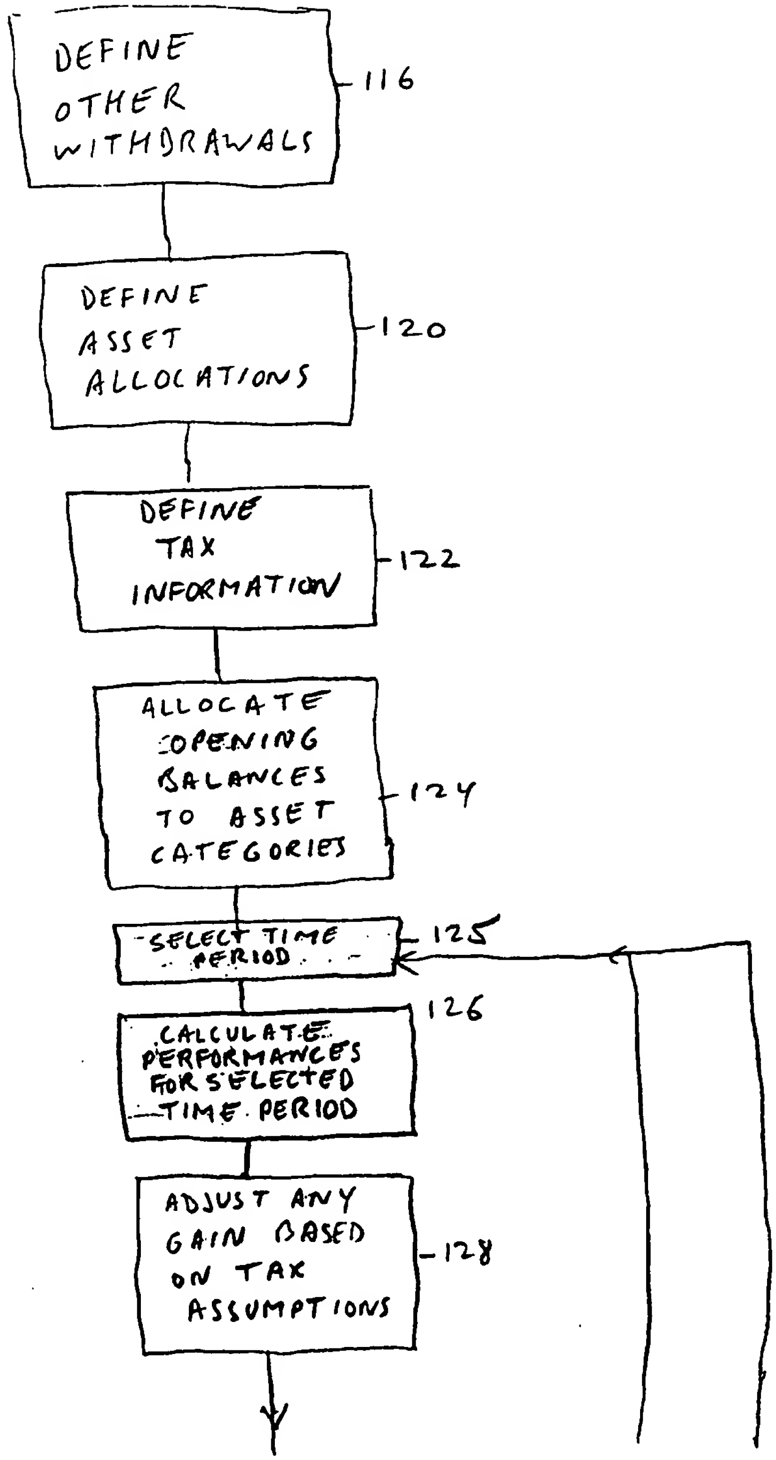

DEFINE OTHER WITHDRAWALS
116
DEFINE ASSET ALLOCATIONS
120
DEFINE TAX INFORMATION
122
ALLOCATE OPENING BALANCES TO ASSET CATEGORIES
124
SELECT TIME PERIOD
125
CALCULATE PERFORMANCES FOR SELECTED TIME PERIOD
126
ADJUST ANY GAIN BASED ON TAX ASSUMPTIONS
128

FIG. 1B

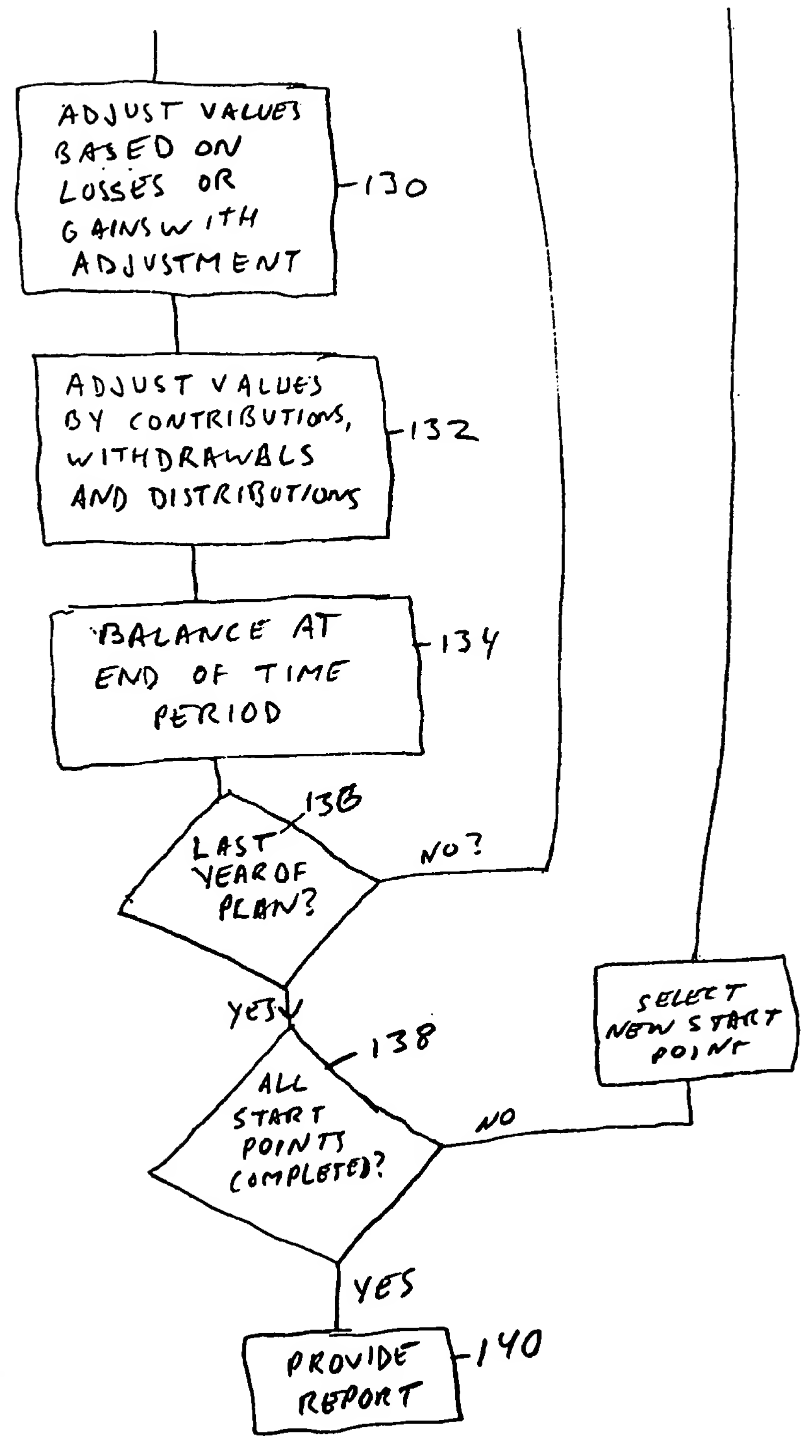
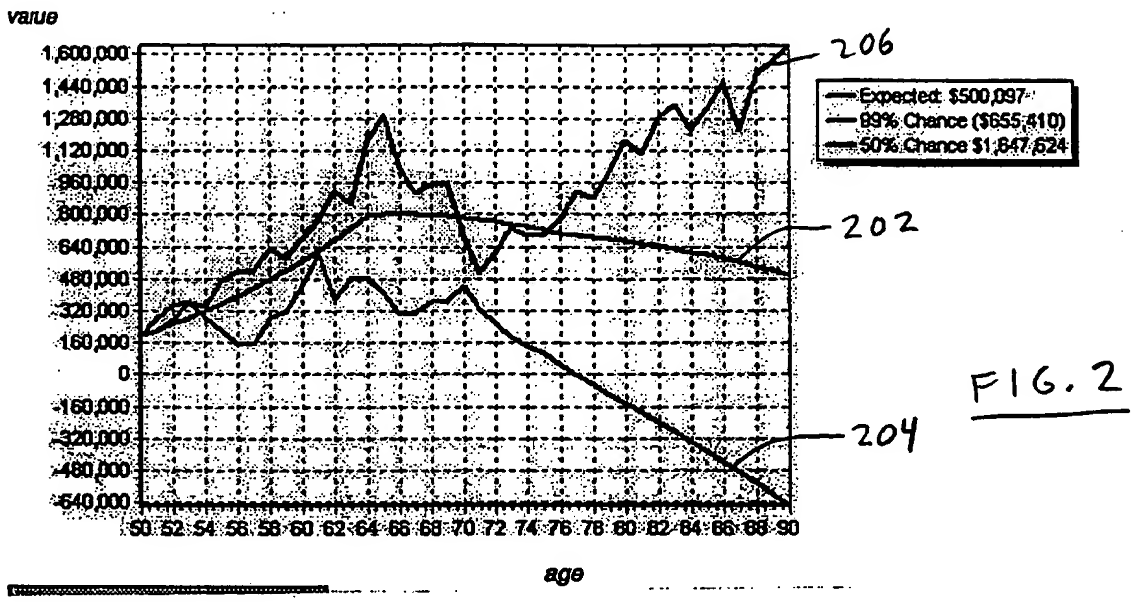

ADJUST VALUES BASED ON LOSSES OR GAINS WITH ADJUSTMENT
130
ADJUST VALUES BY CONTRIBUTIONS, WITHDRAWALS AND DISTRIBUTIONS
132
BALANCE AT END OF TIME PERIOD
134
136
LAST YEAR OF PLAN?
NO?
YES
138
ALL START POINTS COMPLETED?
NO
SELECT NEW START POINT
YES
PROVIDE REPORT
140

FIG. 1C


value
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1,440,000
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1,120,000
960,000
800,000
640,000
480,000
320,000
160,000
0
-160,000
-320,000
-480,000
-640,000
50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90
age
Expected $500,097
99% Chance ($655,410)
50% Chance $1,647,624
206
202
204

FIG. 2

Total Plan Values (99% Probability)

results shown in today's dollars

99.00% Probability
Return: 8.47%
Market Period: 1929-1955,1929-1954

306

302 304

Year	Age	Net Cash(Need) Surplus	Yield	Appreciation	Taxes	Ending Value
0	37	-	-	-	-	$200,000
1	38	$16,250	$2,874	$-47,697	$-443	$164,686
2	39	$16,250	$2,386	$-41,569	$-350	$138,113
3	40	$16,250	$1,956	$-51,699	$-276	$97,906
4	41	$16,250	$1,407	$-4,834	$-188	$107,216
5	42	$16,250	$1,541	$80,398	$-196	$201,813
6	43	$16,250	$2,897	$16,969	$-361	$231,022
7	44	$16,250	$3,320	$76,613	$-2,617	$317,385
8	45	$16,250	$4,560	$119,588	$-12,972	$435,095
9	46	$16,250	$6,252	$-163,195	$-706	$280,550
10	47	$16,250	$4,031	$67,086	$-449	$358,823
11	48	$16,250	$5,156	$-3,140	$-569	$365,595
12	49	$16,250	$5,253	$-24,321	$-576	$351,080
13	50	$16,250	$5,045	$-32,790	$-547	$328,339
14	51	$16,250	$4,718	$79,002	$-507	$417,765
15	52	$8,250	$6,003	$180,366	$-11,442	$588,534
16	53	$8,250	$8,457	$161,183	$-14,848	$734,193
17	54	$8,250	$10,550	$310,958	$-26,237	$1,016,089
18	55	$8,250	$14,600	$-92,140	$-1,258	$915,706
19	56	$8,250	$13,158	$8,499	$-1,107	$915,653
20	57	$8,250	$13,157	$2,624	$-1,075	$909,758
21	58	$16,250	$13,072	$129,745	$-4,424	$1,037,431
22	59	$16,250	$14,907	$270,123	$-19,615	$1,288,406
23	60	$16,250	$18,513	$137,815	$-10,394	$1,412,390
24	61	$16,250	$20,295	$101,209	$-7,984	$1,500,549
25	62	$16,250	$21,561	$-67,325	$-1,567	$1,435,290
26	63	$16,250	$20,624	$621,538	$-37,268	$2,014,156
27	64	$16,250	$28,941	$378,511	$-24,531	$2,354,190
28	65	$-32,955	$33,827	$-661,434	$-2,237	$1,723,782
29	66	$-49,205	$24,769	$-435,106	$-1,471	$1,213,895
30	67	$-49,205	$17,444	$-481,101	$-660	$696,347
31	68	$-49,205	$9,882	$-33,890	$-305	$594,252
32	69	$-49,205	$8,539	$445,611	$-8,608	$974,718

FIG 3A

Year	Age	Net Cash(Need) Surplus	Yield	Appreciation	Taxes	Ending Value
33	70	$-49,205	$14,006	$82,039	$-21,263	$973,334
34	71	$-49,205	$13,986	$322,783	$-21,263	$1,212,719
35	72	$-49,205	$17,425	$456,943	$-21,263	$1,582,731
36	73	$-49,205	$22,742	$-593,649	$-21,263	$898,692
37	74	$-49,205	$12,885	$214,418	$-21,263	$1,028,843
38	75	$-49,205	$14,783	$-9,004	$-21,263	$935,622
39	76	$-49,205	$13,444	$-62,243	$-21,263	$790,538
40	77	$-43,226	$11,359	$-73,835	$-18,679	$644,391
41	78	$-43,226	$9,259	$155,048	$-18,679	$729,284
42	79	$-43,226	$10,479	$314,882	$-18,679	$972,737
43	80	$-43,226	$13,977	$268,408	$-18,679	$1,164,143
44	81	$-43,226	$16,727	$493,058	$-20,721	$1,577,333
45	82	$-43,226	$22,665	$-143,034	$-29,414	$1,339,641
46	83	$-43,226	$19,249	$12,434	$-25,757	$1,264,582
47	84	$-43,226	$18,171	$3,624	$-25,375	$1,182,203
48	85	$-43,226	$16,987	$168,600	$-24,627	$1,266,763
49	86	$-43,226	$18,202	$329,836	$-27,494	$1,508,444
50	87	$-43,226	$21,875	$161,117	$-34,113	$1,571,220
51	88	$-43,226	$22,577	$112,591	$-36,501	$1,582,157
52	89	$-43,226	$22,734	$-60,443	$-37,999	$1,418,399
53	90	$-43,226	$20,381	$614,224	$-37,320	$1,932,404
		$-792,620	$703,365	$3,943,174	$-718,881	

FIG 3B

Probability Analysis

results shown in today's dollars

402 404 406 408

Probability	Ending Value	Market Period	Return
3%	$52,004,745	1942-1968,1942-1967	15.46%
6%	$34,054,657	1943-1969,1943-1968	14.52%
9%	$28,818,996	1941-1967,1941-1966	13.94%
12%	$26,660,365	1971-1997,1971-1996	13.48%
15%	$25,046,329	1932-1958,1932-1957	13.64%
18%	$20,347,210	1938-1964,1938-1963	13.05%
21%	$19,054,140	1939-1965,1939-1964	12.81%
24%	$18,020,177	1970-1996,1970-1995	12.54%
27%	$16,159,715	1934-1960,1934-1959	12.55%
30%	$15,264,849	1967-1993,1967-1992	12.37%
33%	$14,411,675	1944-1970,1944-1969	12.52%
36%	$13,777,468	1958-1984,1958-1983	12.36%
39%	$11,727,696	1961-1987,1961-1986	11.91%
42%	$11,029,867	1964-1990,1964-1989	11.79%
45%	$10,931,907	1966-1992,1966-1991	11.56%
48%	$10,592,221	1954-1980,1954-1979	11.80%
51%	$10,468,048	1965-1991,1965-1990	11.55%
54%	$9,900,936	1945-1971,1945-1970	11.63%
57%	$9,624,709	1957-1983,1957-1982	11.43%
60%	$9,510,606	1969-1995,1969-1994	11.04%
63%	$9,246,313	1968-1994,1968-1993	11.18%
66%	$8,652,208	1931-1957,1931-1956	11.08%
69%	$8,904,472	1955-1981,1955-1980	10.88%
72%	$8,587,788	1956-1982,1956-1981	10.65%
75%	$8,372,427	1953-1979,1953-1978	10.86%
78%	$8,174,089	1947-1973,1947-1972	10.69%
81%	$8,159,647	1950-1976,1950-1975	10.84%
n/a	$5,844,900	Expected Return	10.50%
84%	$5,878,670	1930-1956,1930-1955	10.02%
87%	$5,185,327	1952-1978,1952-1977	10.29%
90%	$4,272,704	1949-1975,1949-1974	9.85%
93%	$2,850,651	1928-1954,1928-1953	8.60%
96%	$2,839,247	1926-1952,1926-1951	8.80%
99%	$1,932,404	1929-1955,1929-1954	8.47%

FIG. 4

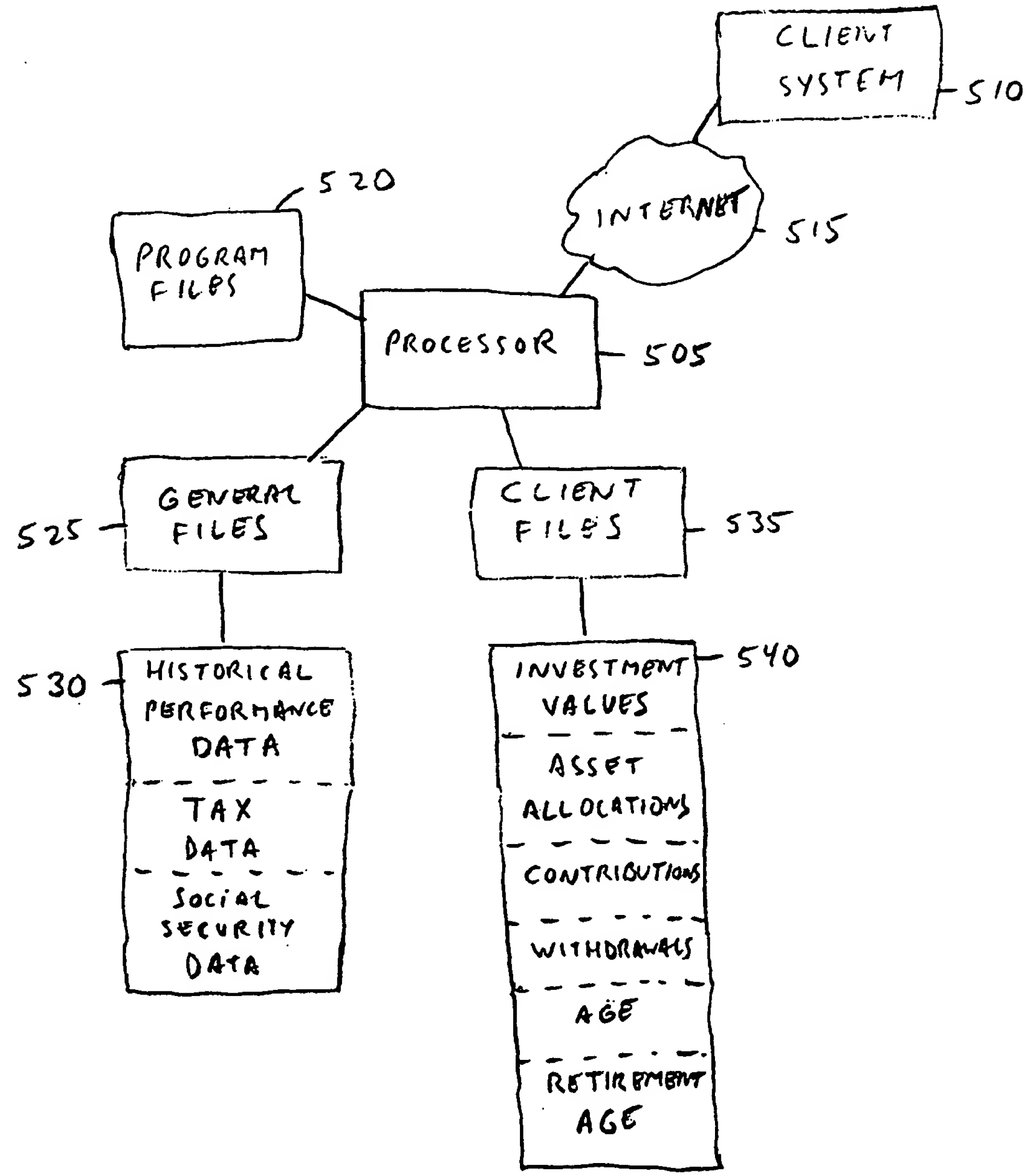
CLIENT SYSTEM
510
520
INTERNET
515
PROGRAM FILES
PROCESSOR
505
GENERAL FILES
525
CLIENT FILES
535
530
HISTORICAL PERFORMANCE DATA
TAX DATA
SOCIAL SECURITY DATA
540
INVESTMENT VALUES
ASSET ALLOCATIONS
CONTRIBUTIONS
WITHDRAWALS
AGE
RETIREMENT AGE

FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/26254

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :GO6F 157:00
US CL :705/36
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 705/35, 36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	The VanguardGroup of investment companies, "RETIREMENT PLANNER", version 3.0 for windows, Retirement Planning Software, 1995.	1-18
A	Kenneth et al., "Helping Employees invest wisely", HRMagazine v38n11, PP: 77-82, November 1993, Dialog file 15, Accession No. 00794493.	1-18
A	US 5,291,398 A (HAGAN) 01 MARCH 1994, COLUMN 3, LINE 13 TO COLUMN 4, LINE 52.	1-18
A	US 5,193,056 A (BOES) 09 MARCH 1993, SEE ABSTRACT.	1-18

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"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search
24 JANUARY 2000

Date of mailing of the international search report
14 FEB 2000

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